stand on uncultivated plots of ground, are surrounded by cultivated lands which are inclosed by loose stone walls. Again, numbers of chambered mounds have been wholly swept away and the materials utilised within the memory of man. Others have been partially removed, and the stone chambers reduced to ruinous heaps; and in some cases, as is well known, deep holes have been dug, and the obstructing blocks buried. And this work of destruction, which is still going on in spite of the prohibitions of the French Government and the legal penalties threatened, has been in operation for centuries. Ought not the knowledge of these facts to have been acquired by the authors, and have made them hesitate before attempting to classify monuments according to their present aspects, without carefully taking into account every possible circumstance connected with the past history of the localities in which they are situated?

Another Continental writer* has fallen into the like errors through the objectionable practice of following in the track of other authors, and seeing with others' eyes. M. da Costa, following the lead of Baron de Bonstetten, has adopted the classification of these monuments into (1) "dolmins apparentes," (2) "dolmins occultos," and (3) "dolmins construidos sobre um monticulo artificial," against which last class we shall raise a vehement protest by and by.

It results from what has been said, that what is really needed when treating of rude stone monuments is perfect accuracy of description and no omission of any detail or feature which may reasonably be supposed to be connected with the structures. Important omissions of this nature frequently occur, not intentionally, but because of the defective archæological education of the writers, and their want of experience. It is very damaging to the cause of scientific truth when such a theory as the one here exposed is asserted to be supported by examples which really tell against it. Our antiquarian ancestors, who knew very little respecting these monuments, and had few opportunities of comparing them with others in distant localities, who did not know what their true construction and destination were, and mistook the weathering effects on the capstones for channels artificially made, called these structures Druids' Altars, and invented horrible stories of human sacrifices. Assuredly, if it be once admitted that there were "free-standing" monuments which were never inclosed in mounds, then their views may not have been so very far wrong, and some of these buildings may, after all, have been erected for altars of sacrifice. There would be very little proof that they were intended for burial-places. The difference between them (especially those which one author describes as resembling "three-legged milking stools," and another calls "tripod dolmens") and the carefully covered ones, out of whose vaults the earth of the mounds is thoroughly excluded by means of walls of dry masonry, is so great and so striking that the exposed ones could scarcely be with any certainty declared to have been tombs. There is abundant evidence betokening what the covered ones were destined for, and hardly more than a mere assumption as regards the others.

W. C. LUKIS

(*To be continued.*)

NOTES

As usual at this season, scientific congresses are coming thick upon us. The British Association commences its sittings next Wednesday at Belfast, when Prof. Tyndall will give his presidential address. The French Association, as we have said in another column, holds its session at Lille contemporaneously with our own. The British Medical Association commenced its yearly meeting at Norwich on Tuesday, when Dr. Copeman, the president, gave his address; and the British Pharmaceutical Conference brought its eleventh annual meeting to a close in London on Saturday last. The tone of the presidential address by Mr. T. B. Groves, F.C.S., at the last-mentioned meeting, as well as that of Mr. F. J. Bramwell, F.R.S., on the 4th inst. at Cardiff, to the Institution of Mechanical Engineers, was, we are glad to see, decidedly in favour of a more thorough education of those who desire to enter upon these callings in the scientific principles which underlie Pharmacy and Mechanical Engineering. The British Archæological Association at Bristol have been working hard and well in their own interesting department. It has become the fashion in certain quarters to speak slightingly of these annual meetings as being meetings for mere talk and enjoyment; they may be so, but it seems to us that, on the whole, the proceedings prove that much really good hard work is being done year after year in all scientific departments; and it is surely something gained that scientific congresses should have come to be regarded as "popular," and should have all the important cities in the kingdom eager for the honour of their presence.

THE following are the titles of the Evening Discourses to be given at the Belfast meeting of the British Association:—Friday, Aug. 21, by Sir John Lubbock, Bart., F.R.S., "On common Wild Flowers considered in relation to Insects;" Monday, Aug. 24, by Prof. Huxley, Sec. R.S., "On the hypothesis that Animals are Automata; and its history."

THE following foreigners and members of the British Association, among others, have signified their intention of being present at the meeting in Belfast:—Dr. Schweinfurth, Prof. Knoblauch, Prof. Gluge, M. Khanikof, Prof. Delffs, M. Bréguet, Prof. Stoletoff, M. Mannoir, Dr. Williamson, Dr. Hooker, Prof. Stokes, Prof. Adams, Dr. Tyndall, Lord Rosse, Prof. Tait, Prof. Clerk Maxwell, Prof. F. Fuller, Lord Enniskillen, Lord O'Hagan, Prof. Jellett, Mr. Huggins, Dr. Balfour, Dr. Carpenter, Prof. Huxley, Dr. Crum Brown, Prof. Herschel, Prof. W. G. Adams, Mr. Stoney, Dr. Roscoe, Dr. Maxwell Simpson, Prof. G. Foster, Mr. Young, Prof. Hull, Prof. Geikie, Prof. Harkness, Major Wilson, Dr. Odling, Sir John Lubbock, Mr. Bramwell, Prof. James Thomson, Mr. Crookes, Dr. Gwyn Jeffreys, Admiral Ommaney, General Strachey, General Smythe, Col. Strange, Capt. Galton, Mr. Spottiswoode, Prof. Michael Foster, Mr. Ray Lankester, Prof. Clifford, Mr. T. W. Glaisher, Mr. F. Galton, Dr. Pye Smith, Mr. Rodwell, Mr. Chandler Roberts, Prof. Rowney, Prof. Corfield, Dr. W. Farr, Col. Grant, General Alexander, Col. Home, General Jenkins, Capt. Jenkins, Lieut. Conder, Major St. John, Dr. Debus, Mr. Paxton, Mr. Seeley, Prof. Thorpe, Prof. Thiselton Dyer, Mr. Miall, Mr. Symes, Mr. Corbett, Mr. Shoolbred, Mr. Thomas, &c.

DR. COPEMAN, in his presidential address at the Norwich meeting of the British Medical Association, spoke of the impossibility of regular practitioners being able to engage in pure scientific research. "All persons engaged in physiological research," he said, "ought to be provided with sufficient means to enable them to devote their whole time and attention to their work, without the cares and troubles of practice; while, on the other hand, those who were engaged in the great and paramount object of curing disease could not possibly spare the necessary time for minute physiological investigations. Each, however, could materially assist the other; the practitioner could furnish facts and observations which might greatly assist the physiologist in his experiments, and the latter could enlighten the former by giving reasons for the facts presented to his notice. The majority of medical men must be practitioners and earn their living by practice; but he hoped that in a society like the British Medical Association means would before long be found to supply the necessary funds to a certain number of gentlemen with young and healthy minds congenial to the work to enable them to devote their time and energies to physiology as a separate study."

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* "Descripcao de alguns Dolmins ou Antas de Portugal," por F. A Pereira da Costa. (Lisboa, 1868.)

IN many French daily newspapers predictions of the future weather have been recently given, which were attributed to the Paris Observatory. Although the Observatory, however, published nothing on the subject, the statement was so widely believed that M. Leverrier felt it necessary to protest against it in his *Daily Meteorological Bulletin*. French meteorology, as we recently intimated, is undergoing a reorganisation in consequence of the vote of the Council of the Observatory. No final decision has been arrived at, although we learn on M. Leverrier's authority that a decision may be speedily expected. We hope to be able to give details when the arrangements have been finally made.

THERE is some hope that an Arctic expedition of discovery may be despatched in the spring of 1875. The Prime Minister has undertaken to consider the subject carefully in all its bearings, and on the 1st of this month the presidents of the Royal Society and of the Royal Geographical Society, accompanied by a gallant admiral of long Arctic experience, had a preliminary interview with Mr. Disraeli.

THE French Alpine Club has sent a party of ten young men under the guidance of M. Albert Tissandier to travel on the Alps and draw up a report of their excursion; others will be sent next year, this being the inauguration trip of the society.

FROM a recent report on the trade of Bremen we learn that a branch of industry, which is gradually increasing in importance, has arisen of late in the barren moorlands of North-western Germany by the preparation of peat or turf. This material is largely used in Germany as fuel both in private dwelling-houses as well as in some large establishments, and, it is stated, also on the Oldenburg Railway. Two companies have lately been formed in Oldenburg for the purpose of manufacturing peat on a large scale, and of supplying it to the inhabitants of Bremen, Oldenburg, and other towns in the neighbourhood, at a far cheaper rate than that now paid to the peasants, who have hitherto almost had a monopoly of the trade in this article. The peat is cut out of the soil of the marshy moors or bogs which extend from Bremen to the Dutch frontier, by machinery; by the removal of the peat a network of canals is formed, which are of use for conveying the peat itself to market, and which likewise form new permanent channels of communication available for all other purposes. The peat-cutting machine consists of a large flat-bottomed steam-vessel, which, when set to work, is able to cut a canal 20 (German) ft. in breadth and 6 ft. in depth, whilst proceeding at the rate of from 10 to 12 ft. per hour. The soil thus cut out by this floating peat manufactory is lifted into the vessel by steam power, and after being thoroughly ground is deposited, by means of a long pipe running out of the side of the vessel, alongside the bank of the canal, where it is subsequently cut into the shape of bricks and dried. It is stated that by this method about 1,000 centners (55 tons English) of a very good kind of peat may be manufactured per day. In view of the present high price of coal, particularly in Britain, and of the great importance which attaches to the question of obtaining a cheap kind of fuel at all times, it might perhaps be well worth while to consider whether this system of peat manufacture could not be introduced in many other parts of Europe, where the soil is doubtless as well suited for the purpose as in Oldenburg.

IN the *American Journal of Science and Arts* for August, Prof. A. W. Wright, of Yale College, describes his polariscopic observations of Coggia's comet. On the evening of July 6 the polariscope showed the bands, both bright and dark, quite definitely, and they were seen with comparative ease. Observations repeated a number of times agreed in showing that the light was polarised in a plane passing through the axis of the tail, that is, as nearly as could be estimated, in a plane passing through it and the sun. Other observations made on the evening of July 14, when the sky was quite clear, gave the same result, though less satisfactorily, as the twilight had begun to interfere with the observations. After waiting until this had disappeared, it was possible to see the bands, though with some difficulty, and the degree of the polarisation appeared to be decidedly less than on the previous occasion. The circumstances were too unfavourable to admit of any determination of the percentage of light polarised, but it was certainly not large. The fact of polarisation shows that a considerable portion of the light of the coma is derived from the sun by reflection.

A COMPANY has been formed to work the sulphur deposits at White Island, a marine volcano 140 miles from Auckland. It is estimated that 100,000 tons of sulphur in an almost pure state are lying on the island ready for shipment. Chemical works are likely to be established soon, and the island leased.

A NEW university will be opened at Agram, in Croatia, in October next. It will have the name of the "Francis-Joseph University."

H.M.S. *Shearwater* left Capetown on July 14 for Mauritius, with the members of the expedition who are to observe the Transit of Venus from that island.

DETAILS appear in the *Times* and *Daily News* of the expedition of H.M.S. *Basilisk*, which, as we have already (vol. x. p. 215) intimated, has been exploring the north-eastern shores of New Guinea. The ship had arrived at Singapore at the end of June, the expedition and the survey of Goschen Strait and the coast from East Cape to Cape Rigny, of the Astrolabe Gulf—about 500 miles—having occupied four months. Lieut. Dawson was to return on July 15 by Torres Straits to Sydney, whence he proceeds to Fiji to survey and report upon the harbours and passages. Riche—the island of D'Entrecasteaux, who visited these coasts in search of La Perouse in 1793—was found not to exist now. To the large D'Entrecasteaux group the names of Normanby, Fergusson, and Goodenough were given by Capt. Moresby. The coast was varied in feature, being at times bold and steep, with lofty mountains, at others low and wooded, with off-lying coral banks and dangers. The natives became less friendly as the expedition went westward. Venomous snakes were found, but no wild animals. About 300 miles westward of East Cape the natives were stark-naked and more debased. Collections of implements, articles of dress, and ornaments were obtained in great quantities; among the former, tortoise-shell axes and models of the war canoes. A few botanical and natural history specimens were obtained by the medical officers, as well as a rough vocabulary of the language. At Amboyna (Dutch settlement) the *Basilisk's* officers met Mr. Alexander Miclucho Macleay, the Russian traveller, who had recently returned from the north-west coast, where the natives had been hostile and had eventually ousted him. Full of zeal in his work, he had overdone it, and was suffering at Amboyna from scurvy, and afterwards erysipelas. The Dutch medical authorities thought his condition serious when the *Basilisk* left Amboyna. The surveys of the *Basilisk* have opened up a new route to Sydney, which is 280 miles shorter than the shortest previously known route.

MR. HENRY SKEY, of the Observatory, Dunedin, Otago, New Zealand, writes in reference to the mention which is made in NATURE, vol. vii. p. 25, of Prof. Capocci's idea of constructing a revolving mercurial speculum for a reflecting telescope, that he would like to know if such an instrument has actually been constructed. The same idea, Mr. Skey states, presented itself to himself, and he also constructed a telescope on this principle many years ago in England without knowing that the method was engaging the attention of others. He sends an account of a mercurial reflecting telescope exhibited by him before the New Zealand Institute, Nov. 19, 1872, which is published in the Transactions of that Institute, vol. v. p. 119.

THE *Times* of Monday and Tuesday contains some interesting details concerning Col. Gordon's African Expedition from one of his staff. The latest date is June 18, when the various detachments were in boats on the White Nile, making the best of their way to Gondokoro. One of the objects of this expedition, as our readers no doubt know, is to carry out the work so well begun by Sir Samuel Baker in the suppression of slavery. Col. Gordon expects to have steamers on Lake Albert Nyassa by November next; and the Rev. H. Waller, writing in the *Times*, states that by taking the Suez, Souakim, Berber, and Khartoum route, it is quite possible to reach Gondokoro in forty-eight days from England, including a week's rest at Khartoum.

IN the "Tijdschrift voor entomologie nitgegeven door de Nederlandsche entomologische vereeniging" is a useful paper On *Acentropus* (Curt.), by Mr. Ritsema. He refers to the passage in the preface to the *Zoologist* for 1857: "We have an aquatic section of Diptera, Neuroptera, Coleoptera and Hemiptera; it is in perfect accordance with the known laws of Nature that there should be an aquatic section of Lepidoptera;" and he quotes the opinion given by Dr. Hagen in July 1856, that *Acentropusniveus* is a lepidopterous insect of the family Crambidæ. He then gives in chronological order extracts from writers in different countries who regard *Acentropus* as lepidopterous, and adds in conclusion a list of the streams and ponds where it has been found. Stephens, in 1835, raised the question whether his *Acentropidæ* ought not to be placed under Lepidoptera, but Dr. Ritsema does not quote him.—There is also a continuation of a new catalogue of the Hymenoptera of the Netherlands, by Snellen van Vollenhoven, with localities and list of synonyms. 1,072 species are enumerated, of which 13 are described in full as new to Science.—Dr. Ritsema describes the male of a Xylocopa, of which he says he knows only some eight or nine examples, and of which there is no specimen mentioned in the British Museum Catalogue. He gives two coloured figures.

AN Entomological Club has been formed at Cambridge, Massachusetts, having for its object the mutual interchange of discoveries and observations in regard to entomology. It has been determined to undertake the publication of a monthly organ to be called *Psyche*. This will contain such a part of the proceedings of the Society as are considered of general interest, communications, lists of captures, and especially a *Bibliographical Record*, in which will be given a list of all writings upon entomology published in North America, and all foreign writings upon North American entomology from the beginning of the year 1874. The editor is Mr. B. Pickman Mann, of Cambridge, Massachusetts. The first number contains an article by Mr. Scudder, on the English names for butterflies, and the first part of the *Bibliographical Record*.

WE have received from the Royal Observatory, Cape of Good Hope, "The Cape Catalogue of 1,159 Stars, deduced from Observations at the Royal Observatory, Cape of Good Hope, 1856 to 1861, reduced to the epoch 1860," under the superintendence of E. J. Stone, F.R.S., H.M. Astronomer at the Cape.

WE learn from the *Gardener's Chronicle* that there is to be an exhibition of useful and noxious insects during next month at the Tuileries, Paris. The exhibition commences on the 6th and is under the auspices of the Société Générale d'Insectologie. In a country where the vines are being devastated by *Phylloxera* and where an epidemic disease has been spreading among the silk-worms, the value of such exhibitions cannot be over-estimated.

A PAPER by Mr. N. Whitley, C.E., entitled "The Palæolithic Age Examined," read before the Victoria Institute, has been published (Hardwicke) in a separate form, along with the subsequent interesting discussion, in which Dr. W. B. Carpenter, F.R.S., Mr. John Evans, F.R.S., Mr. W. C. Borlase, Mr. Charlesworth, and others took part.

MESSRS. BLACKWOOD and Sons have in the press and nearly ready for publication, "Economic Geology; or, Geology in its relations to the Arts and Manufactures," by David Page, LL.D.

MESSRS. LONGMAN will shortly publish the following works bearing upon Science:—"The Primeval World of Switzerland," by Dr. Oswald Heer, translated from the German and edited by James Heywood, F.R.S.; this work will be illustrated. "The Sun: an account of the principal modern discoveries respecting the Structure of the Sun of our System," by Father Secchi, translated and edited by Richard A. Procter. "The Star Depths; or, other Suns than ours," by Richard A. Procter. "An Introduction to Experimental Physics," by Adolf F. Wermhold. And a new edition of Dr. Neil Arnott's "Elements of Physics," edited by Alexander Bain and Alfred Swain Taylor.

M. GÖPPERT has issued a little "Guide to the Royal Botanic Garden of the University of Breslau," containing an interesting account of its various collections, and of the most important plants grown in it, illustrated by a map.

WE have received Mr. Ellery's *Monthly Record* of observations taken at Melbourne Observatory in December and January last. The mean temperature in the former month was 67·2°, being 3·6° higher than the last fifteen years' average, and the highest on record with one exception. The highest temperature in the shade was 101·2°, the range in the month being 56·3°.

THE most recently published parts of the new edition of "Griffith and Henfrey's Micrographic Dictionary" bring the work down as far as "Mouth." The publication continues to maintain its high scientific character.

THE additions to the Zoological Society's Gardens during the past week include two Egyptian Gazelles (*Gazella dorcas*) from Egypt, presented by Mr. G. Muscat; four Rufous Tinamons (*Rhynchotus rufescens*) from the Argentine Republic, presented by Mr. Alfred O. Lumb; three Mastigures (*Uromastix sp.* ?) from Persia, presented by Captain Phillips; one Yaguarundi Cat (*Felis yaguarundi*) from South America, deposited.

U. S. WEATHER MAPS

THE *American Journal of Science and Arts* for July contains an article on Results derived from an Examination of the United States Weather Maps for 1872 and 1873, by Elias Loomis, Professor of Natural Philosophy in Yale College.

Prof. Loomis had a number of outline maps of the United States prepared, and on these he traced the tracks of all the storms, whenever a storm-centre could be satisfactorily located, for two successive days, the maps exhibiting, on the aggregate, storm-paths for 314 days. These results were then reduced to a tabular form by measuring with a protractor the bearing of each storm-path with reference to a meridian, and measuring the daily progress of the storm on a scale of inches. This table showed the date of each storm, the velocity of its progress, the direction of its path, together with readings of the barometer before, during, and after a storm, and from it were calculated the following:—The average direction of the storm-paths for two years was 8° to the north of east, and the average velocity wa 25·6 miles per hour. July is the month in which the course is most south, and October in which it is most north. February